

other through said abutting joint surfaces arranged opposite to each other;

said end plates each being formed with a slit in a manner to extend from said cable guide hole to a portion of said end plate in proximity to an outer periphery of said end plate so as to permit a wall of said end plate to open by cutting along said slit;

said cable guide hole being provided thereon with a thin-wall cap capable of being removed by cutting and said slit being detachably fitted therein with a rigidity holding member; and

at least one cable clamp arranged opposite to one of said end plates and provided with at least one cable insertion portion through which the cable is fittedly inserted, said cable clamp including a clamp body formed with at least one cable guide recess and at least one curved holding member arranged opposite to said cable guide recess, said curved holding member being fastened to said clamp body of said cable clamp by means of a mounting member;

said cable guide recess and curved holding member being detachably provided with holding spacers in a manner to be opposite to each other, respectively.

33. A closure for cable connection as defined in claim 32, wherein said holding spacers are each constructed of an arcuate element formed on an arcuate inner peripheral surface thereof with at least one peak-and-valley shaped groove.

REMARKS

Claims 1-30 are rejected under 35 U.S.C. § 112, second paragraph. Specifically with respect to claims 29 and 30, the Examiner noted inconsistencies between the language in the preamble and certain portions of the body of the claims. In response, claims 29 and 30 have been amended, respectively, at

lines 2-3 to change "wherein an airtight tape is wound around an outer periphery of the cable" to "further comprising an airtight tape wound around an outer periphery of the cable...". Claims 1 and 22-26 have been amended to delete the phrase "...-like" therefrom. Claims 11 and 12 have been amended to change "detachably fitted in a recess or a hole formed at a corresponding one" to read "detachably fitted in a recess formed at a corresponding one...". Claim 21 has been amended at line 4 thereof to delete "or teeth" after "serrated protrusions." Finally, claim 4 has been amended at line 3 to change "further comprising at least one cable clamp arranged opposite to one of said end plates" to --further comprising at least one cable clamp arranged between said opposite ends of said sleeve--. Applicants note that proper antecedent basis for the recitation "said opposite ends of said sleeve" is provided in claim 1, at line 9. The amendment of claims 1, 4, 11, 12, 21-26 and 29-30 is fully supported by the specification and introduces no new matter. As such, the § 112, second paragraph, rejections should be withdrawn with respect to claims 1-30 and the subject claims allowed.

Claims 1, 2, 3, 5 and 22 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 4,857,672 to Rebers et al. ("Rebers"). Referring to Figs. 1-7 thereof, Rebers discloses a cable splice closure 1 including a casing 2 having a bottom half 4 and a top half 5, the bottom and top halves 4 and 5 being generally openable along a seam 3 for accessing an interior portion of the casing 2. The splice closure 1 is generally cylindrical and has first and second ends 14 and 15, respectively, with an end cap arrangement positioned in each of the ends 14 and 15. As shown in Fig. 1, each end cap arrangement 19 is adapted to accommodate two cables 20 and 21 passing therethrough. Referring to Fig. 2A, each end cap arrangement 19 includes two separable members or sections 39 and 40 mated to one another generally along phase line interface 41.

The end cap arrangement 19 includes a pair of bores 48 and 49 which extend completely through the end cap for passage of the cables 20 and 21 therethrough.

Referring to Fig. 6 of Rebers, a slit or cut line 133 extends from an outer periphery or edge 137 of first separable section 39 to the center of bore 50. The cut line 133 also continues through the entire thickness of the section 39. As a result, section 39 can be spread open or twisted along cut line 133 to fit around a cable. In a similar manner, cut line 140 extends from an outer periphery 137 of first separable section 39 to bore 51. One particular feature shown in Figs. 6 and 9 discloses that with respect to the two separable members 39 and 40, the cut lines of overlapping bores 50 and 90, i.e., cut lines 133 and 150, do not extend at the same angle and in an overlapping relationship to one another. That is, they are non-coplanar and do not overlap when the two sections 39 and 40 are mated. Rather, they extend at different angles with respect to one another and do not cross. Rebers describes this feature as being "particularly worthy of note" as "it minimizes the likelihood of there forming a leak" along the cut lines 133 and 150. Col. 13, lines 22-32.

In contrast as shown in Figs. 7-12, Applicants' closure for a cable connection includes end plates 3 having a round shape and including at least one cable guide hole 20. Each end plate 3 is provided with caps 21 of a reduced wall thickness for covering the respective cable guide holes 20. The caps 21 are each arranged on the end plate 3 in a manner to be capable of being removed by cutting from the end plate 3. Each end plate 3 also includes one or more slits 22 formed in a manner to correspond to the respective cable guide holes 20. The slits 22 are arranged so that one end thereof communicates with the corresponding guide hole 20 and the other end thereof extends to a portion of the end plate 3 in proximity to the outer periphery thereof. The

slits 22 are each closed on an outer periphery thereof with thin wall elements 22₁ and 22₂, respectively, when the cable 10 is not inserted through the cable guide hole 20 corresponding thereto. Each of the slits 22 which do not have a cable inserted therethrough are removably fitted therein with a rigidity holding seal member 25₁. Insertion of the cable through the end plate 3 is carried out by removing the rigidity holding member 25 from the cable guide hole 20 to which the cable is to be inserted, selectively removing the thin wall cap 21 by cutting the cap 21 from the cable guide hole 20 to open the hole 20, cutting the thin wall elements 22₁ and 22₂ of the end plate 3 to the outer periphery of the slit 22 to thereby enable an outer end of the slit 22 to be widely opened, and then laterally inserting the cable 10 through the open slit toward the cable guide hole 20. The slit 22 is then returned to the original configuration and the rigidity holding seal member 25, is fitted into the slit 22, followed by adhesion of the rigidity holding seal member 25₁ to the slit 22 by means of an adhesive.

Referring to Applicants' Fig. 9, each end plate 3 is provided on an outer peripheral surface thereof with a plurality of peak-and-valley shaped grooves 26 which extend along the circumference of the plate 3 for permitting compression forces to be produced between the inner surface of the sleeve 1 and each end plate 3, resulting in the generation of an air-tight seal. In addition, a gasket 11 including an adhesive material such as an unvulcanized butyl rubber material, is provided between the outer periphery of the end plate 3 and an inner surface of the end fitment portion 3₁ of the sleeve 1 so as to cover an outer end portion of the slit 22 which extends to the outer periphery of the end plate 3. The adhesive gasket 11 both adheres to the outer periphery of the end plate 3 and conforms to the outer periphery of the end plate 3, including the peak-and-valley shaped grooves 26 provided at the outer periphery. As described

in the specification, the addition of the adhesive gasket further enhances the generation of an air-tight seal between the end plate 3 and the sleeve 1. Page 14, line 27 to page 15, line 16.

Thus, claim 1 is unanticipated by Rebers because the cited reference does not disclose an end plate "being formed with a slit in a manner to extend from said cable guide hole to a portion of said end plate in proximity to an outer periphery of said end plate...said slit being detachably fitted therein with a rigidity holding member." Rebers clearly does not disclose a rigidity holding member provided in a slit which prevents opening of the outer periphery of the end plate and displacement of the cable inserted in the cable guide hole. In addition, claim 1 is unanticipated because Rebers does not disclose "a gasket including an adhesive interposed between said outer periphery of said end plate and an inner surface of said sleeve so as to cover an outer end of said slit." The Examiner asserts that the outer annular section 130 shown in Fig. 7 of Rebers discloses the adhesive gasket limitation recited in claim 1. However, Applicants respectfully contend the outer annular section 130 is not "interposed between said outer periphery of said end plate and an inner surface of said sleeve", nor does it "cover an outer end of said slit." In other words, Applicants' adhesive gasket is a separate and distinct element which is provided over an edge of the end plate and is not integrally formed with the end plate. Claim 1 is also unanticipated because Rebers does not disclose that the outer annular section 130 includes an adhesive, such as an unvulcanized butyl rubber material. For all the reasons set forth above, claim 1 is unanticipated by Rebers and is otherwise allowable.

Claim 2 is also unanticipated by Rebers because the cited reference does not disclose an end plate which is "removably fitted therein with a second rigidity holding member

in a manner to be positioned at a central portion thereof between the cable guide holes and abutted against an end wall of said sleeve." As shown in Applicants' Figs. 1 and 7, end plate 3 includes a center recess 28 for receiving second rigidity holding member 29. When the second rigidity holding member 29 is inserted into the center recess 28, it is surrounded by the cable guide holes 20. Rebers clearly does not disclose such a center recess including a second rigidity holding member positioned therein and positioned between the cable guide holes, with the second rigidity holding member abutted against an end wall of the sleeve. Thus, claim 2 is unanticipated by Rebers. Claim 2 is also unanticipated by virtue of its dependence upon claim 1, which is unanticipated for the reasons set forth above.

Claim 3 is unanticipated by Rebers because the cited reference does not disclose that the "cable guide hole of said end plate is detachably fitted therein with a third rigidity holding member." Referring to Fig. 7, Applicants disclose that each of the cable guide holes 20 which do not have a cable inserted therethrough are removably fitted therein with a rigidity holding member 25. Insertion of a cable through the end plate 3 is carried out by removing the rigidity holding member 25 from the cable guide hole through which the cable is to be inserted. Page 13, line 14 et seq. Rebers does not disclose any such "third rigidity holding member" which is detachably fitted in one of the cable guide holes. Thus, claim 3 is unanticipated by Rebers and is otherwise allowable. Claim 3 is also unanticipated by Rebers by virtue of its dependence upon claim 1, which is allowable for the reasons set forth above. Claims 5 and 22 are also unanticipated by Rebers by virtue of their dependence upon claims 2 and 1, respectively.

Claim 29 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Rebers. As noted above, claim 29 has been amended to correct certain § 112 deficiencies noted by the

Examiner. Claim 29 is allowable over Rebers by virtue of its dependence upon claim 1, which is allowable for the reasons set forth above.

Claims 23-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rebers in view of U.S. Patent No. 4,558,174 to Massey. Referring to Figs 5-7, Massey discloses an element for securing the covers 23 and 24 together including a resilient latch support frame 121 attached to the longitudinal edge portion 109 of each cover 23 and 24. The latch support frame 121 is also provided with a plurality of latching fingers 126. Each latching finger is mounted pivotally about a fulcrum which includes one of a plurality of spaced co-linear wire portions 127 which are parallel to wire portions 124. As can be best be seen in Fig. 5, each latching finger 126 includes one end portion 128 and another longer end portion 129. The end portion 128 cooperates with portions of the mating cover, whereas the end portion 129 is used as a lever to pivotally turn the latching finger 129 and to seat the end portion 128. The covers 23 and 24 are secured by moving the end 129 of the latching finger 126 toward the closure to engage a cover and firmly seat each end 128 in engagement with the associated seat 134, as shown in Fig. 7.

In contrast, as shown in Applicants' Fig. 39, the lower and upper sleeve members 1 and 2 are secured together using fastener 70. Each fastener includes a loop-like ring 71 made of a metal rod and fitted in a ring insertion recess 72 formed at a ring receiving projection 73 provided on one side edge of the upper sleeve 2. The fastener 70 includes a pivotable operation lever 75 provided with a holding projection 74 and a holding recess 72₁ formed at fastener receiver projection 73₁ provided on one side edge of the lower sleeve member 1. The loop-like rings 71 of the fastener 70 are each movably provided with a retaining member 77 along an outer side of each of the gaskets 7 so as to be fitted in a recess 76 formed by chamfering outer side edges of

the abutting joint surfaces of the lower and upper sleeve members 1 and 2. The retaining member 77 may be constructed of, for example, a ring rod. Such construction, when a sticky sealant is charged between the abutting joint surfaces of the sleeve members 1 and 2, effectively prevents run out of the sealant. Page 21, line 11-page 22, line 3. The combination of Rebers and Massey neither disclose nor suggest that a second ring of at least one of the fasteners includes "a retaining member fitted in said recess of said outer edges of said abutting joint surface so as to be arranged along an outside of one of said gaskets." In other words, the Massey fastener does not include a retaining member which fits in the chamfered recess on the outer edge of the casing. As such, claim 23 is unobvious over the combination of Rebers and Massey and is otherwise allowable. Claim 23 is also allowable by virtue of its dependence from claim 1, which is allowable for the reasons set forth above.

Claim 24 is also allowable for the reasons set forth above with respect to claim 23, i.e. the combination of Rebers and Massey does not disclose a fastener including "a retaining member fitted in said recess of said outer edges of said abutting joint surface so as to be arranged along an outside of one of said gaskets." Claim 24 is also allowable because it depends indirectly from claim 1 which is allowable for the reasons set forth above.

Claim 25 is allowable because the combination of Rebers and Massey neither disclose nor suggest that the "retaining member is arranged at said ring of each of the fastener ...". Claim 25 is also allowable by virtue of its dependence upon claim 24, which is allowable for the reasons set forth above.

Claim 26 is allowable over Rebers and Massey by virtue of its dependence upon claim 22 which is allowable for the reasons set forth above.

With respect to claim 27, Applicants' Fig. 5A shows that each recess 6 is formed so that both ends of the recess 6 are reduced in width to thereby provide a gasket press-fit portion 6₁ for pressedly fittedly holding the gasket 7 therein. Thus, fitting of the gasket in each of the recesses 6 is carried out by pressedly fitting both ends of the gasket 7 in the gasket press-fit portion 6₁ of the recess 6 while elongating it, to thereby removably fix the gasket 7 in the recess 6. Page 11, lines 13-27. In contrast, the Massey reference neither teaches nor suggests that the recesses 112 in the casing halves 23 and 24 include sections at both ends having reduced width for pressedly holding the gasket 141. Thus, claim 27 is patentable because the combination of Rebers and Massey neither disclose nor suggest upper and lower sleeve members provided with a recess for fittedly holding a gasket therein, whereby "said recess being so formed that opposite ends thereof are each reduced in width, to thereby provide a gasket press-fit portion for pressedly fittedly holding said gasket therein." Claim 27 is also patentable by virtue of its dependence upon claim 1 which is patentable for the reasons set forth above.

With respect to claim 28, Applicants' Fig. 5D discloses that upper sleeve member 2 and lower sleeve member 1 are each provided with barrier 65 at different portions thereof defined along the recesses 6 and on both side edges thereof deviated from each other in a longitudinal direction. During assembly of both upper and lower members 2 and 1 into the sleeve, the sleeve members are joined together while mutually abutting the barrier 65 of each of the sleeve members against an inner surface of the other sleeve member, resulting in deviation of the upper and lower sleeve members 2 and 1 from each other in a horizontal direction thereof being effectively prevented. Page 11, lines 28-37. Massey provides no such teaching or suggestion. As such, claim 28 is patentable over the combination of Rebers and Massey

because the references neither disclose nor suggest that the "upper and lower sleeve members are each provided with barriers at different portions thereof defined along said recess and on both side edges thereof deviated from each other in the longitudinal direction thereof; and said barriers of one of said sleeve members are mutually abutted against an inner surface of the other sleeve member to join said sleeve members to each other." Claim 28 is also patentable by virtue of its dependence upon claim 1 which is allowable for the reasons set forth above.

Claims 1-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent No. 8242526 to Sasaki et al. in view of U.S. Patent No. 4,933,512 to Nimiya et al. The end plate 3 of Sasaki is made of a rubber elastic material and is provided on an outer periphery with a plurality of circumferential projections 26 which serve as an air-tight seal between the inner periphery of the sleeve and the outer periphery of the end plate 3. As such, Sasaki teaches that the provision of the circumferential projections 26 is sufficient for providing an air-tight seal and that any other sealing mechanism is unnecessary. On the other hand, the Nimiya reference teaches that the end plate 40 is made of a rigid material such as plastic (see column 6, lines 33-46 and column 8, lines 21-25). Because the end plate 40 is made of a rigid material, it is necessary to arrange between the inner surface of the sleeve 20 and the outer surface of the end plate 40 a suitable sealing element made of an elastic material which is relatively more resilient than the sleeve 20 and the end plate 40. The elastic material sealing element is described as an elastic tape 60 which is wound around the outer recess portions 42B of the end plate 40. Column 7, lines 60-62. Applicants respectfully assert that it is unreasonable to combine the teachings of Sasaki and Nimiya. As set forth above, Sasaki teaches that the circumferential projections 26, by themselves, are capable of providing an air-

tight seal between the inner periphery of the sleeve 1 and the outer periphery of the end plates 3. Sasaki provides no suggestion that an additional sealing element, such as Nimiya's tape 60, is required to obtain an air-tight seal. As such, further provision of the air-tight tape 60 disclosed in Nimiya could not be combined with Sasaki without a suitable teaching reference. The Examiner has not cited Nimiya to overcome any of the deficiencies in Sasaki noted above, but rather to add an additional feature, namely, according to the Examiner, "it would have been obvious to one of ordinary skill in the art... "to modify the closure of Sasaki et al. by incorporating an adhesive tape gasket between the end plates and the sleeves, as taught by Nimiya et al., in order to increase the sealing capabilities between the plates and the sleeves." However, obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. In re Geiger, 815 F.2d 686, 2 U.S.P.Q.2d 1276, 1278 (Fed.Cir. 1987). As explained by the Board: When the incentive to combine the teachings of the references is not readily apparent, it is the duty of the Examiner to explain why combination of the referenced teachings is proper...[a]bsent such reasons or incentives, the teachings of the references are not combinable." Ex Parte Skinner, 2 U.S.P.Q.2d 1788, 1790 (Bd.Pat.Appl.&Inter. 1987). Moreover, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. In re Fritch, 23 U.S.P.Q.2d 1780, 1784 (Fed.Cir. 1992) ("One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."). In sum, it is not obvious to combine the teachings of these two references as suggested by the Examiner. Thus, claim 1 is patentable over Sasaki and Nimiya and is otherwise

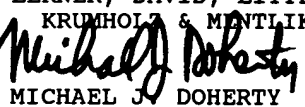
allowable. Claims 2-30 are also allowable by virtue of their dependence upon claim 1.

As set forth above, by the present amendment Applicants have added new claims 31-33. New claims 31-33 are fully supported by the original specification and introduce no new matter. New claim 31 is allowable by virtue of its dependence upon claim 1 which is allowable for the reasons set forth above. New independent claim 32 essentially combines limitations recited in claims 1 and 4 and thus is allowable for the reasons set forth above with respect to claims 1 and 4. New claim 33 recites limitations present in claim 11 and is allowable by virtue of its dependence upon new claim 32.

As it is believed that all of the objections, rejections and requirements set forth in the Office Action have been fully met by the foregoing amendment and remarks, favorable reconsideration and allowance of claims 1-30 and allowance of new claims 31-33, is respectfully requested.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge our Deposit Account No. 12-1095.

Respectfully submitted,

LERNER, DAVID, LITTENBERG,
KRUMHOLTZ & MENTLIK

MICHAEL J. DOHERTY
Reg. No. 40,592

600 South Avenue West
Westfield, New Jersey 07090
Telephone: (908) 654-5000
Facsimile: (908) 654-7866